

## QuickTee Installation Instructions

The QuickTee from Radius Systems is a technologically advanced electrofusion tapping tee, which has been developed to increase onsite efficiencies whilst reducing the number of joints required when making connections onto polyethylene gas pipelines.

The QuickTee incorporates a single combined electrofusion heating element which results in a single electrofusion joint between the service pipe and the main.

The QuickTee incorporates a unique service pipe clamp ring, therefore removing the need to use electrofusion alignment clamps between the tapping tee and service pipe during the fusion and cooling processes.

The QuickTee is available for main connections from 63mm to 180mm.

### Tooling Requirements

- 40 Volt electro-fusion control box & suitable electrical supply
- Suitable tapping tee top loading clamp within calibration<sup>1</sup>.
- Re-rounding clamps (where deemed necessary)
- ProFuse PET &/or pipe scraping tool, (depending on the pipe type being connected to).
- A 12mm hexagonal T-key
- Non synthetic cleaning cloths
- Indelible marker pen.

<sup>1</sup>For QuickTee service connections within the UK Gas Industry the tapping tee top loading clamp shall conform to the requirements of Gas Industry Specification, PL2: Part 5: 2006 and be within calibration.



- Tent or shelter (where deemed necessary)

### Personal Protective Equipment

As deemed necessary by the risk assessment.

### Jointing procedure



- Ensure that the fitting is compatible with the pipe to which it is connected.
- Where there is dirt on the surface of the pipe, this should be wiped off prior to preparing the pipe surface, by scraping or peeling.
- Visibly check that the area to be jointed is free from damage and surface defects.
- Check the main for ovality (re-round where necessary).
- Whilst in its protective packaging, place the QuickTee on the main and with an indelible pen mark the area of the pipe to be prepared.



- When making a service connection onto ProFuse pipe, score around the marked area using the ProFuse PET and remove the ProFuse skin.
- For PE pipes without an external skin, scrape the marked area to ensure that all dirt and surface oxidation is removed.
- Only prepare the pipe jointing surface if you are able to immediately continue with the electrofusion joint process.



- Remove the QuickTee from its protective packaging, remove the protective element cover and upper screw cap.
- Cover the service outlet to ensure that contaminants do not enter the socket.
- Position the QuickTee onto the main and using a suitable tapping tee top-loading clamp.

**NOTE:** The only recommended tool for scoring the ProFuse skin is the ProFuse PET. Do not use any other tooling.



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loading clamp.

- Screw the top loading clamp crown-wheel down until the load indicator is flush with the top of the crown-wheel.



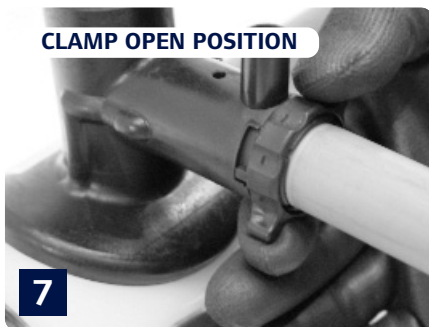
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- The surface of the service pipe should now be prepared using a suitable pipe surface preparation tool (take care not to over-scrape the pipe surface).



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- Mark a depth of engagement on the service pipe.
- With the outlet clamping ring in the open position fully insert the service pipe into the QuickTee outlet. The mark should be visible.



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- When in the open position, the 'lugs' of the outlet-clamping ring are at 1 and 7 o'clock positions.



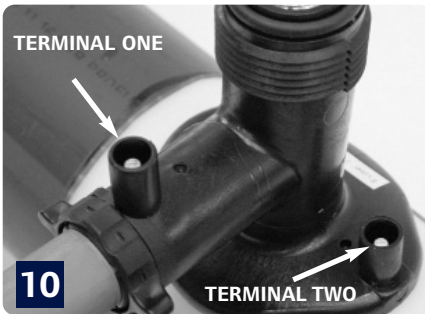
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- With the service pipe fully inserted into the QuickTee, rotate the clamping ring by 45° clockwise. This will lock the service pipe into the outlet of the QuickTee, (when in the locked position the clamp ring 'lugs' are at the 3 and 9 o'clock positions as shown in figure 8).



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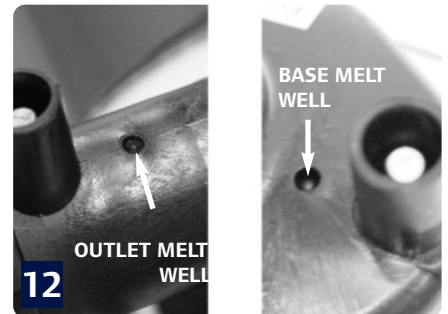
- Check that there is an adequate supply of fuel in the generator for the fusion process.
- Start the generator and connect the fusion box to it.
- Connect the electrofusion control box leads to the terminals of the QuickTee, as shown in Figure 10.



- One terminal is positioned on the base pad and the other terminal is positioned above the fitting outlet.



- Mark the Fusion start and finish times on the pipe along with the cooling completion time. The fusion and cooling times are marked on the QuickTee.
- Follow the prompts and guidance given on the fusion box display screen and input the fusion time.



- The QuickTee uses 'melt well' fusion indicators, one on the QuickTee base and one on the service outlet.
- During the fusion cycle the 'melt well' indicators will rise.
- It is not intended that these 'melt well' indicators will stand proud of the melt well.



- After the cooling time has elapsed, remove the QuickTee top-loading clamp and the electrofusion leads.



- With the service connection to the property complete, pressure testing of the service may now take place.



- After a successful test, the service pipe may be commissioned by tapping into the parent main.
- A 12mm hexagon drive T-key is used to turn the QuickTee cutter in a clockwise direction until you have cut through the main. (Note: The turning force will reduce when you have cut through the main)
- On cutting through the main, continue turning the cutter in a clockwise direction for a further two complete revolutions of the T-Key.



- The T-Key should now be rotated in an anti-clockwise direction until the top of the cutter is flush with the top of the QuickTee (as shown in the photograph).
- Ensure that the 'O' ring is in place, the screw cap should now be replaced onto the tapping tee, tightened by hand and checked for leak-tightness.

## IMPORTANT NOTES



When the QuickTee is used with Profuse pipe then the Profuse skin must be removed prior to electrofusing the QuickTee onto the pipe.



The electrofusion process must be a continuous operation consisting of pipe surface preparation and electrofusion jointing. Do not touch the prepared pipe surface. If the surface becomes contaminated, re-prepare it using a pipe scraping tool. Wiping the pipe surface is not an acceptable method for preparation.



It is important that the top loading clamp is within calibration and is capable of applying the correct clamping force for the whole of the fusion process. (The recommended clamping force during the fusion process is between 1000 - 1500N, the clamping force shall not fall below 1000N at the end of the fusion process).



A correctly calibrated top loading clamp shall be capable of applying a clamping force of between 1400 and 1500 Newtons force, when the force registration pin is flush with the top of the rotating crown wheel.



If there is an interruption between the electrical supply and the fitting during the electrofusion process, then the joint must not be reheated. Leave the joint to cool and cut through the QuickTee stack, leaving it unusable. Do not cut through the main with the tapping tee cutter.

The electrofusion process shall not commence until the tapping tee is correctly clamped onto the main and the service pipe inserted into the QuickTee socket outlet and securely clamped.

**Radius Systems Limited**  
 Hilcote Plant, PO Box 1  
 Blackwell, Nr Alfreton  
 Derbyshire, DE55 5JD  
 United Kingdom

**T: +44 (0)1773 811112**  
**F: +44 (0)1773 812343**  
**E: [enquiries@radius-systems.co.uk](mailto:enquiries@radius-systems.co.uk)**  
**W: [www.radius-systems.com](http://www.radius-systems.com)**

